INDEX TO VOLUME L.

ABSORPTION, conjugation, and excretion of phenols, 499

Acetonuria produced by diets containing large amounts of fat, studies on, 361

Acid, amino-, deficiencies in protein, a modified biological method of studying, 103

——, sulfuric, chemistry of the oxidation of sulfur by microorganisms to, and transformation of insoluble phosphates into soluble forms, 35

——, uric, colorimetric determination, 55

——, ——, determination of, a modification of Folin's colorimetric method for, 89

——, ——, of human blood, studies on, 65

Acids, amino-, in nutrition, 103

——, hydroxyaspartic, resolution into optically active forms, 403

——, *p*-oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, tyrosine, tyramine, phenol, and *o*-, *m*-, and *p*-cresol, a quantitative method for the separation and estimation of phenols including, 271

ADOLPH, EDWARD F., and HENDERSON, LAWRENCE J. The heat of reaction of oxygen with hemoglobin, 463

ALDRICH, MARTHA. See DENIS, SISSON, and ALDRICH, 315

Amines, proteinogenous, studies on, 131, 193, 235, 271

Amino-acid deficiencies in proteins, a modified biological method of studying, 103

Amino-acids in nutrition, 103

Analysis and composition of corn pollen, 433

ANDERSON, R. J., and KULP, W. L. Analysis and composition of corn pollen. Preliminary report, 433

BARACH, A. L., MEANS, J. H., and WOODWELL, M. N. The hydrogen ion concentration and bicarbonate level of the blood in pneumonia, 413

Bean, Georgia velvet (*Stizolobium deeringianum*), cystine as a growth-limiting factor in the proteins, 103

BERKELEY, C. An organic constituent of the tube of *Mesochætopterus taylori*, Potts, 113

Bicarbonate level and hydrogen ion concentration of the blood in pneumonia, 413

Biochemical phenomena, electronic interpretation of certain, 193

Biogenesis of oil of peppermint, 31

Biological method of studying amino-acid deficiencies in protein, modified, 103

Blood coagulation, rôle of cephalin in, 455

——, human, studies on the uric acid of, 65

——, hydrogen ion concentration and bicarbonate level in the, in pneumonia, 413

——, quantitative method for the determination of phenols in, 491

—— serum of the albino rat with temperature, changes in the refractive index, 47

XUM

Bone development, a substance other than fat-soluble A associated with certain fats which plays an important rôle in, 5

CALCIUM, determination of, effect of hydrogen ion concentration upon, 527
—— in urine, a rapid and accurate method for, 537
Carbon monoxide in serum and plasma, solubility, 289
Cephalin, rôle in blood coagulation, 455
Chemistry of the oxidation of sulfur by microorganisms to sulfuric acid and transformation of insoluble phosphates into soluble forms, 35
Collodion membranes, flexible, preparation, 1
Colorimetric determination of uric acid, 55
—— method for the determination of uric acid, a modification of Folin's, 89
—— ——, microchemical, for estimating tyrosine, tyramine, and other phenols, 235
—— ——, rapid, for the quantitative determination of the inorganic phosphorus in small amounts of serum, 329
Conjugation, excretion, and absorption of phenols, 499
——, phenol, as influenced by liver injury and insufficiency, 513
Corn pollen, analysis and composition, 433
o-, *m*-, and *p*-Cresol, *p*-oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, tyrosine, tyramine, and phenol, a quantitative method for the separation and estimation of phenols including, 271
Culture medium, vitamine content of microorganisms in relation to the composition of the, 311
Cystine as a growth-limiting factor in the proteins of the Georgia velvet bean (*Stizolobium deeringianum*), 103
——, oxidation in the animal organism, 303

DAKIN, H. D. The resolution of hydroxyaspartic acids into optically active forms, 403
DENIS, W., SISSON, WARREN R., and ALDRICH, MARTHA. A study of the effect produced on the composition of milk by the administration of certain inorganic and organic substances, 315
DERKS, T. J. G. See EIJKMAN, VAN HOOGENHUIJZE, and DERKS, 311
Determination of calcium, effect of hydrogen ion concentration upon, 527
—— —— phenols, including phenol, *o*-, *m*-, and *p*-cresol, *p*-oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, tyrosine, and tyramine, a quantitative method for the separation and, 271
—— —— —— in the blood, quantitative method for, 491
—— —— sodium in serum without the use of platinum dishes, 301
—— —— tyrosine, tyramine, and other phenols, a microchemical colorimetric method for, 235
—— —— uric acid, a modification of Folin's colorimetric method for, 89
—— —— —— ——, colorimetric, 55
——, quantitative, of the inorganic phosphorus in small amounts of serum, a rapid colorimetric method for, 329

Diabetes, severe, curve of sugar excretion in, 121

Diet of the cow, influence upon the quantity of vitamines A and B in the milk, 339

Diets containing large amounts of fat, studies on the acetonuria produced by, 361

Digestion experiments, human, with raw white of egg, 83

DUTCHER, R. A. See KENNEDY and DUTCHER, 339

EGG, raw white of, some human digestion experiments with, 83

EIJKMAN, C., VAN HOOGENHUIJZE, C. J. C., and DERKS, T. J. G. The vitamine content of microorganisms in relation to the composition of the culture medium, 311

Electronic interpretation of certain biochemical phenomena, 193

Excretion, absorption, and conjugation of phenols, 499

——, sugar, in severe diabetes, curve, 121

FAT, diets containing large amounts of, studies on the acetonuria produced by, 361

Fats, a substance other than fat-soluble A associated with certain fats, which plays an important rôle in bone development, 5

Fat-soluble A, a substance other than fat-soluble A associated with fats which plays an important rôle in bone development, 5

FELSHER, HANNAH. Curve of sugar excretion in severe diabetes, 121

Folin's colorimetric method for the determination of uric acid, a modification, 89

GRATIA, ANDRÉ, and LEVENE, P. A. The rôle of cephalin in blood coagulation, 455

Growth-limiting factor, cystine as, in the proteins of the Georgia velvet bean (*Stizolobium deeringianum*), 103

HAMMETT, F. S., and TELLER, IDA. Changes in the refractive index of the blood serum of the albino rat with temperature, 47

HANKE, MILTON, T., and KOESSLER, KARL K. Studies on proteinogenous amines. XII. The production of histamine and other imidazoles from histidine by the action of microorganisms, 131. XIII. On the electronic interpretation of certain biochemical phenomena, 193. XIV. A microchemical colorimetric method for estimating tyrosine, tyramine, and other phenols, 235. XV. A quantitative method for the separation and estimation of phenols including phenol, *o*-, *m*-, and *p*-cresol, *p*-oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, tyrosine, and tyramine, 271

Heat of reaction of oxygen with hemoglobin, 463

Hemoglobin, heat of reaction of oxygen with, 463

HENDERSON, LAWRENCE J. See ADOLPH and HENDERSON, 463

HESS, ALFRED F., UNGER, L. J., and PAPPENHEIMER, A. M. Experimental rickets in rats. III. The prevention of rickets in rats by exposure to sunlight, 77

Histamine and other imidazoles, production from histidine by the action of microorganisms, 131

Histidine, production of histamine and other imidazoles from, by the action of microorganisms, 131
VAN HOOGENHUIJZE, C. J. C. See EIJKMAN, VAN HOOGENHUIJZE, and DERKS, 311
HUBBARD, ROGER S., and WRIGHT, FLOYD R. Studies on the acetonuria produced by diets containing large amounts of fat, 361
Human blood, studies on the uric acid of, 65
—— digestion experiments with raw white of egg, 83
Hydrogen ion concentration and bicarbonate level of the blood in pneumonia, 413
—— —— —— upon the determination of calcium, effect, 527
Hydroxyaspartic acids, resolution into optically active forms, 403

IMIDAZOLES and histamine, production from histidine by the action of microorganisms, 131
Inorganic and organic substances, a study of the effect produced on the composition of milk by the administration of certain, 315
—— phosphorus in small amounts of serum, a rapid colorimetric method for the quantitative determination of, 329

JACKSON, HENRY, JR., and PALMER, WALTER W. A modification of Folin's colorimetric method for the determination of uric acid, 89
JOFFE, JACOB S. See WAKSMAN, and JOFFE, 35
JONES, WALTER. The thermostable active agent of pig's pancreas, 323

KENNEDY, CORNELIA, and DUTCHER, R. A. Vitamine studies. IX. The influence of the diet of the cow upon the quantity of vitamines A and B in the milk, 339
KOESSLER, KARL K. See HANKE and KOESSLER, 131, 193, 235, 271
KREMERS, R. E. The biogenesis of oil of peppermint, 31
KULP, W. L. See ANDERSON and KULP, 433

LEVENE, P. A. See GRATIA and LEVENE, 455
LEWIS, HOWARD B., and ROOT, LUCIE E. The metabolism of sulfur. IV. The oxidation of cystine in the animal organism, 303
Liver function, studies of, 513
—— injury and insufficiency, phenol conjugation as influenced by, 513
LOONEY, JOSEPH M. The preparation of flexible collodion membranes, 1

MACLEOD, A. GARRARD. See MORRIS and MACLEOD, 55, 65
MACLEOD, GRACE. See ROSE and MACLEOD, 83
MCCOLLUM, E. V., SIMMONDS, NINA, SHIPLEY, P. G., and PARK, E. A. Studies on experimental rickets. XII. Is there a substance other than fat-soluble A associated with certain fats which plays an important rôle in bone development? 5
MEANS, J. H. See BARACH, MEANS, and WOODWELL, 413
Medium, culture, vitamine content of microorganisms in relation to the composition of the, 311
Membranes, flexible collodion, preparation, 1

Mesochætopterus taylori, Potts, an organic constituent of the tube of, 113
Metabolism of sulfur, 303
Method for the determination of uric acid, a modification of Folin's colorimetric, 89
——, microchemical colorimetric, for estimating tyrosine, tyramine, and other phenols, 235
——, modified biological, of studying amino-acid deficiencies in protein, 103
——, quantitative, for the determination of phenols in the blood, 491
——, ——, —— —— separation and estimation of phenols including phenol, *o*-, *m*-, and *p*-cresol, *p*-oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, tyrosine, and tyramine, 271
——, rapid and accurate, for calcium in urine, 537
——, —— colorimetric, for the quantitative determination of the inorganic phosphorus in small amounts of serum, 329
Microchemical colorimetric method for estimating tyrosine, tyramine, and other phenols, 235
Microorganisms, chemistry of the oxidation of sulfur by, to sulfuric acid and transformation of insoluble phosphates into soluble forms, 35
——, production of histamine and other imidazoles from histidine by the action of, 131
——, vitamine content of, in relation to the composition of the culture medium, 311
Milk, a study of the effect produced on the composition of, by the administration of certain inorganic and organic substances, 315
Milk, quantity of vitamines A and B in, influence of the diet of the cow upon, 339
Morris, J. Lucien, and Macleod, A. Garrard. Colorimetric determination of uric acid. Estimation of 0.03 to 0.5 mg. quantities by a new method, 55
—— and ——. Studies on the uric acid of human blood, 65

Nutrition, amino-acids in, 103

O'Brien, H. R., and Parker, W. L. Solubility of carbon monoxide in serum and plasma, 289
Oil of peppermint, biogenesis, 31
Organic and inorganic substances, a study of the effect produced on the composition of milk by the administration of certain, 315
—— constituent of the tube of *Mesochætopterus taylori*, Potts, 113
Organism, animal, oxidation of cystine in, 303
Oxidation of cystine in the animal organism, 303
—— —— sulfur by microorganisms to sulfuric acid, chemistry of, and transformation of insoluble phosphates into soluble forms, 35
Oxygen, heat of reaction with hemoglobin, 463
p-Oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, tyrosine, tyramine, phenol, and *o*-, *m*-, and *p*-cresol, a quantitative method for the separation and estimation of phenols including, 271
p-Oxyphenyllactic, *p*-oxyphenylacetic, and *p*-oxyphenylpropionic acids, tyrosine, tyramine, phenol, and *o*-, *m*-, and *p*-cresol, a quantitative method for the separation and estimation of phenols including, 271

XUM

p-Oxyphenylpropionic, *p*-oxyphenyllactic, and *p*-oxyphenlacetic acids, tyrosine, tyramine, phenol, and *o*-, *m*-, and *p*-cresol, a quantitative method for the separation and estimation of phenols including, 271

PALMER, WALTER W. See JACKSON and PALMER, 89

Pancreas, pig's, thermostable active agent of, 323

PAPPENHEIMER, A. M. See HESS, UNGER, and PAPPENHEIMER, 77

PARK, E. A. See MCCOLLUM, SIMMONDS, SHIPLEY, and PARK, 5

PARKER, W. L. See O'BRIEN and PARKER, 289

PEDLEY, FRANK G. See SHOHL and PEDLEY, 537

PELKAN, K. F. The physiology of the phenols. I. A quantitative method for the determination of phenols in the blood, 491

—— and WHIPPLE, G. H. The physiology of the phenols. II. Absorption, conjugation, and excretion, 499

—— and ——. Studies of liver function. III. Phenol conjugation as influenced by liver injury and insufficiency, 513

Peppermint, oil of, biogenesis, 31

Phenol conjugation as influenced by liver injury and insufficiency, 513

——, *o*-, *m*-, and *p*-cresol, *p*-oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, tyrosine, and tyramine, a quantitative method for the separation and estimation of phenols including, 271

Phenols, a quantitative method for the separation and estimation of, including phenol, *o*-, *m*-, and *p*-cresol, *p*-oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, tyrosine, and tyramine, 271

—— in the blood, quantitative method for the determination, 491

——, physiology of, 491, 499

——, tyrosine, tyramine, and other phenols, a microchemical colorimetric method for estimating, 235

Phosphates, insoluble, transformation of, into soluble forms and the chemistry of the oxidation of sulfur by microorganisms to sulfuric acid, 35

Phosphorus, inorganic, in small amounts of serum, a rapid colorimetric method for the quantitative determination of, 329

Physiology of the phenols, 491, 499

Plasma and serum, solubility of carbon monoxide in, 289

Platinum dishes, determination of sodium in serum without the use of, 301

Pneumonia, hydrogen ion concentration and bicarbonate level of the blood in, 413

Pollen, corn, analysis and composition, 433

Proteinogenous amines, studies on, 131, 193, 235, 271

Proteins, a modified biological method of studying amino-acid deficiencies in, 103

—— of the Georgia velvet bean (*Stizolobium deeringianum*), cystine as a growth-limiting factor in, 103

REFRACTIVE index of the blood serum of the albino rat with temperature, changes in, 47

Rickets, experimental, in rats, 77

——, ——, studies on, 5

—— in rats, prevention by exposure to sunlight, 77

ROOT, LUCIE E. See LEWIS and ROOT, 303

ROSE, MARY SWARTZ, and MACLEOD, GRACE. Some human digestion experiments with raw white of egg, 83

SERUM, blood, of the albino rat with temperature, changes in the refractive index, 47

—— and plasma, solubility of carbon monoxide in, 289

——, a rapid colorimetric method for the quantitative determination of the inorganic phosphorus in small amounts of, 329

——, sodium in, without the use of platinum dishes, determination, 301

SHIPLEY, P. G. See MCCOLLUM, SIMMONDS, SHIPLEY, and PARK, 5

SHOHL, ALFRED T. The effect of hydrogen ion concentration upon the determination of calcium, 527

—— and PEDLEY, FRANK G. A rapid and accurate method for calcium in urine, 537

SIMMONDS, NINA. See MCCOLLUM, SIMMONDS, SHIPLEY, and PARK, 5

SISSON, WARREN R. See DENIS, SISSON, and ALDRICH, 315

Sodium in serum without the use of platinum dishes, determination, 301

Solubility of carbon monoxide in serum and plasma, 289

Stizolobium deeringianum, Georgia velvet bean, cystine as a growth-limiting factor in the proteins, 103

Sugar excretion in severe diabetes, curve, 121

Sulfur, chemistry of the oxidation of, by microorganisms to sulfuric acid and transformation of insoluble phosphates into soluble forms, 35

——, metabolism of, 303

Sulfuric acid, chemistry of the oxidation of sulfur by microorganisms to, and transformation of insoluble phosphates into soluble forms, 35

Sunlight, prevention of rickets in rats by exposure to, 77

SURE, BARNETT. Amino-acids in nutrition. IV. A modified biological method of studying amino-acid deficiencies in proteins. Cystine as a growth-limiting factor in the proteins of the Georgia velvet bean (*Stizolobium deeringianum*), 103

TELLER, IDA. See HAMMETT and TELLER, 47

Thermostable active agent of pig's pancreas, 323

TISDALL, FREDERICK F. A rapid colorimetric method for the quantitative determination of the inorganic phosphorus in small amounts of serum, 329

Tyramine, phenol, *o*-, *m*-, and *p*-cresol, *p*-oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, and tyrosine, a quantitative method for the separation and estimation of phenols including, 271

——, tyrosine, and other phenols, a microchemical colorimetric method for estimating, 235

Tyrosine, tyramine, and other phenols, a microchemical colorimetric method for estimating, 235

Tyrosine, tyramine, phenol, *o*-, *m*-, and *p*-cresol, and *p*-oxyphenylacetic, *p*-oxyphenylpropionic, and *p*-oxyphenyllactic acids, a quantitative method for the separation and estimation of phenols including, 271

UNGER, L. J. See HESS, UNGER, and PAPPENHEIMER, 77

Uric acid, colorimetric determination, 55

—— ——, determination of, a modification of Folin's colorimetric method for, 89

—— —— of human blood, studies on, 65

Urine, a rapid and accurate method for calcium in, 537

VITAMINE content of microorganisms in relation to the composition of the culture medium, 311

Vitamine studies, 339

Vitamines A and B, quantity in the milk, influence of the diet of the cow upon, 339

WAKSMAN, SELMAN A., and JOFFE, JACOB S. The chemistry of the oxidation of sulfur by microorganisms to sulfuric acid and transformation of insoluble phosphates into soluble forms, 35

WHIPPLE, G. H. See PELKAN and WHIPPLE, 499, 513

White of egg, raw, some human digestion experiments with, 83

WILSON, S. J. The determination of sodium in serum without the use of platinum dishes, 301

WOODWELL, M. N. See BARACH, MEANS, and WOODWELL, 413

WRIGHT, FLOYD R. See HUBBARD and WRIGHT, 361